

**MSI'S RISKY ULTRABOOK
FORM FACTOR**

**FROM THE FLOOR OF THE
NEW YORK AUTO SHOW**

**PLUS:
Q&A WITH V-MODA'S
VAL KOLTON**

DISTRO

040513 #85

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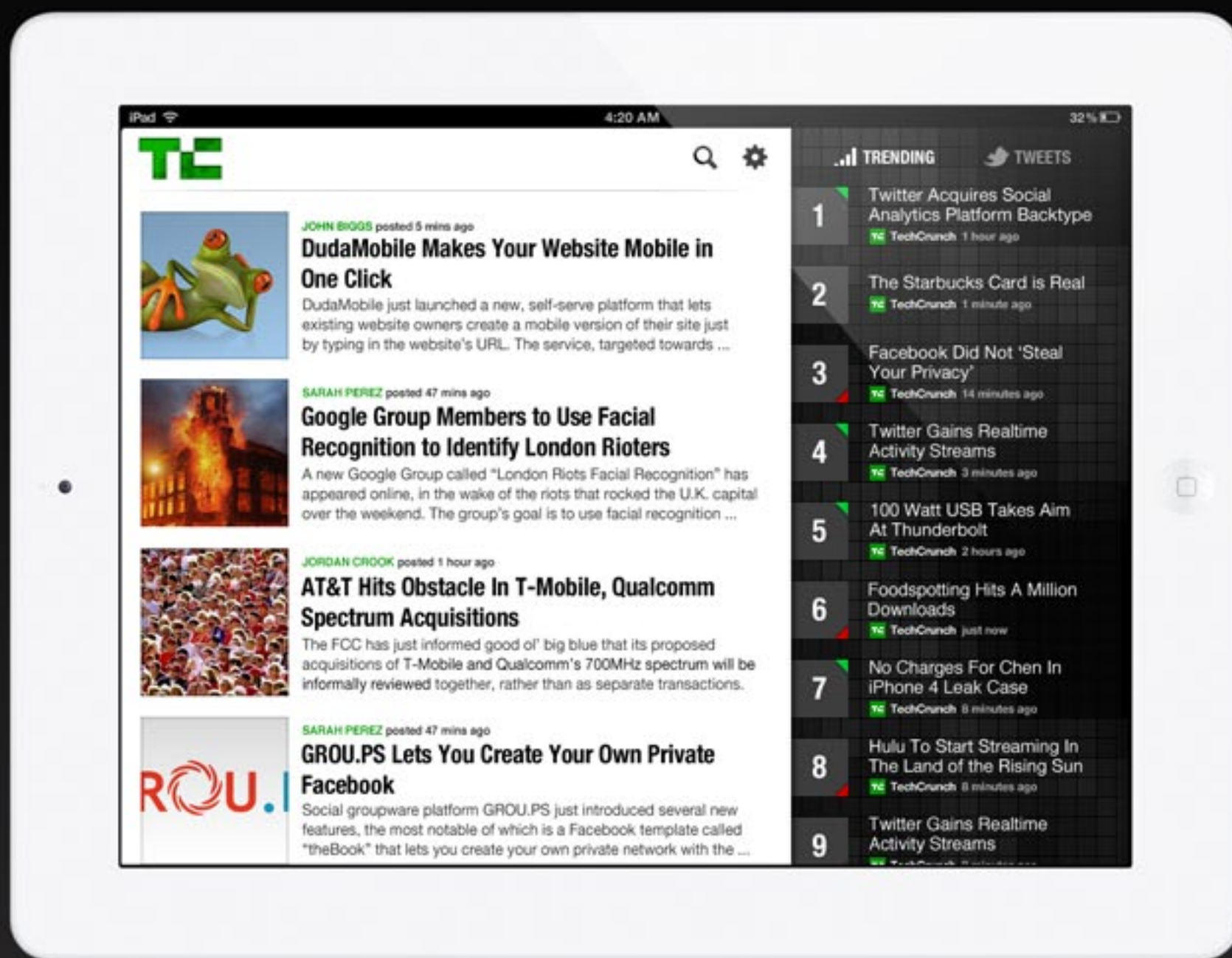
ON THE EDGE

**RAZER ATTEMPTS TO UPEND
PORTABLE GAMING WITH
'THE MOST POWERFUL TABLET
IN THE WORLD'**



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ISSUE 85

DISTRO

04.05.13

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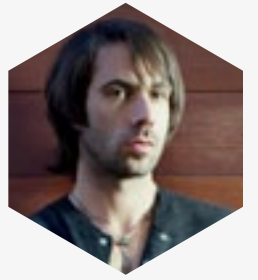


ESC



VISUALIZED

**Techno
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Q&A

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REHASHED

**HTC Third
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On the Cover:
Photograph by
Will Lipman for Distro



THE SOCIAL SMARTPHONE

DISTRO
04.05.13

EDITOR'S
LETTER



There's a good chance 2011's *HTC Status*, with its portrait QWERTY layout and dedicated Facebook button, never found its way into your social network. That last attempt at the mythical Facebook phone failed to garner much praise, but if social networks gave up so easily, well, we'd all still be using MySpace. HTC and Facebook are at it again, this week launching the \$99 First, exclusively on AT&T in the US.

Yes, it's a name every commenter could love (or hate), a title cheekily reminiscent of the HTC One. This, though, is a rather different device, aiming more toward the mid-range and relying on some serious social integration to make it stand out. It's the first phone running the Facebook Home interface, which will be available on many devices starting on April 12th. It delivers a far more comprehensive Facebook experience than the previous apps have managed, and intriguingly Zuckerberg himself said that Home is "the next version of Facebook." The end of the web? Stay tuned.

Meanwhile, the One went on pre-sale this week on both Sprint and AT&T, ahead of an April 19th launch. Both carriers are selling the 32GB version for \$200

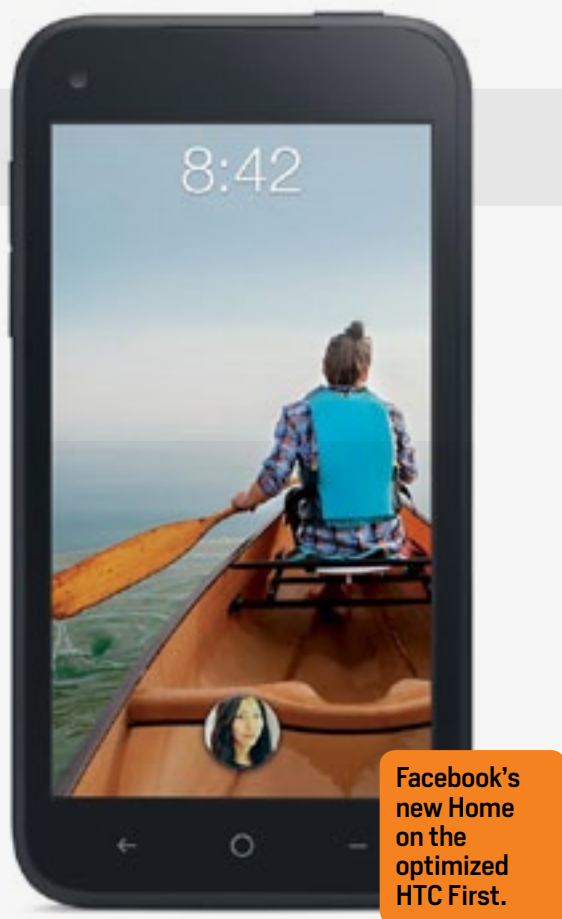
on-contract, while AT&T has the 64GB version exclusively for \$300.

The next Nexus 7 entered rumored-existence status this week courtesy of *Reuters*, which reported the second-gen tablet will launch in July and will sport a higher-res screen and an as-of-yet unnamed Qualcomm processor. That would fit nicely with an unveiling at Google I/O this year, don't you think?

Tim Cook issued a surprise apology to the Chinese market this week after some very negative reactions to the company's warranty policy, which would often see refurbished parts and devices used as replacements instead of the new ones used in other markets. That's now changed, with those new replacements now covered by a full warranty as well, in keeping with China's "Three Guarantees" law. Additionally, Apple service providers will be receiving more supervision to ensure everything is kept above the table and a new, more direct feedback system has been put in place for consumers to issue complaints.

Michael Dell finally and kindly gave us some clues about just what he wants to do with a private Dell. Those hoping for a shocking reinvention of the stalwart PC






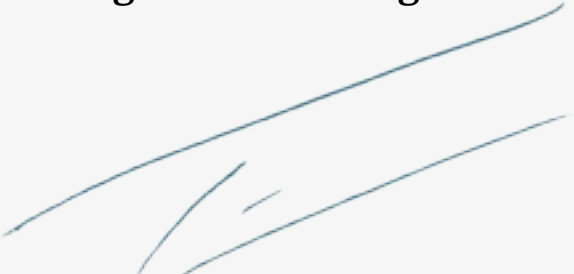
maker had best turn away now, as Dell's Dell plans don't fall far from the company's current objectives. He does pledge for stronger investments into R&D and a push into developing markets, but consumer laptops and tablets will continue to be a strong focus while a bolstered sales team would help boost corporate partnerships. So, nothing drastically new — just slightly refocused.

T-Mobile delivered some unfortunate news to its Windows Phone fans, saying the Lumia 810 will not be receiving an update to enable LTE connectivity on the UnCarrier's network. This was an update promised by T-Mobile back in January and was surely something of a buying factor for current 810 owners. Meanwhile, *TmoNews* has what appears to be a confirmation that current unlocked iPhone 5s *will* be able to install an update to enable LTE, Visual Voicemail and more. Bit of a shame that those who bought their devices elsewhere will get the love that Lumia owners won't.

Tesla announced first-quarter sales

for the Model S, which exceeded expectations by 250 units for a total of 4,750. That's the good news. The bad news is that the company is killing off the most affordable version, the 40 kWh pack that would have sold for \$60,000. Only 4 percent of those who pre-ordered went for that option, and indeed they'll still get a car for that price if they want, but it'll actually be a 60 kWh car with software limited to match the smaller pack. If and when they want to upgrade, a phone call — and an \$11,000 charge — will remove that restriction. Tesla also launched a leasing program this week, for those who really want a Model S, but who sadly can't afford a Model S.

In this week's Distro we have a pair of reviews: the Razor Edge Pro modular gaming tablet, which made quite a stir at CES this year, and MSI's Slidebook S20, which takes the slider route to attempted Ultrabook bliss. We have hands-on with both the GameStick and OUYA (our full review of the latter will come in next week's issue), Ross Rubin analyzes the UnCarrier's plans and Joshua Fruhlinger discusses the perils of an always-Google society. V-MODA's Val Kolton does Q&A and a new IRL installment will let you know just how we get on with our gadgets in the real world. That's something worth sharing. 



TIM STEVENS
EDITOR-IN-CHIEF,
ENGADGET



PHONE FREEDOM, FAIRER FUNDING AND MASSIVE MOOG RESPECT



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INBOX



A NOT-SO SIMPLE CHOICE ISSUE 84, MARCH 29TH, 2013

“I’m happy about T-Mobile’s UnCarrier plans. Simply put, I like being able to see how much the phone costs and how much the service costs. These details should have been apparent all along and they really should’ve been separate charges. For people like me, who buy phones unlocked and contract free, we finally have the opportunity to truly reap the benefits. It makes absolutely no sense

why someone who has their own paid off phone is paying the same monthly price for service as someone with a subsidized phone.”

— QST4

“\$20 two years from now isn’t worth as much as \$20 now. You save an additional ~\$10 when taking into consideration inflation and the net present value of the money.”

— TK0209

HIGHER STAKES, HIGHER GROUND FOR CROWDFUNDING: PART 2 ISSUE 84, MARCH 29TH, 2013

“I had a frustrating experience with Kickstarter with regards to accountability. I am based in the UK and backed a US based project, which involved two deliveries from China. Having paid

\$300 for the products and shipping cost I was handed bills for import duties on both deliveries totaling a further \$100. At no point was I made aware that this might happen. On contacting the project creators they advised it was not something they could account for and on raising it to Kickstarter themselves, I was advised that it was not their responsibility how projects were conducted. I was advised [that] Kickstarter tries to ensure that projects are run ethically; however I was not given the impression they were going to do anything about my predicament. Since then, I have ceased sponsoring projects [that] require shipment of physical product across borders. A real shame.”

— SPCURTIS81



“It’s a donation and it’s not tax deductible? It’s wrong in so many ways. I think participants should own part of the company instead of the product at higher price with long waiting time.”

— HTD2007

NERDS IN RABBIT HOLES
ISSUE 84,
MARCH 29TH, 2013

“The internet is taking over our natural lives, surprise. Remember you’re reading this article and comment.”

— JIKJORDAN

“Music: SoundCloud vs. practicing.”

— BRADHILL

“This article is a little confusing because read-

ing or sharing info about my interests is still a large part of the overall interest. After all, if there’s no one around to share your interest then why are you doing it? Think about it.”

— KUNU

DELL LATITUDE 10
ISSUE 84,
MARCH 29TH, 2013

“A lot of businesses already have contracts with Dell to supply hardware

and services; delivering a compatible device with more portability has got to be win-win.”

— SLICK312

THE INSIDE STORY
OF LENOVO’S THINKPAD
REDESIGN
ISSUE 84,
MARCH 29TH, 2013

“Goodnight, sweet price. Farewell to ThinkPads.”

— TENSAL_CIRNO

“How can I get my hands on that prototype shell? Love the industrial design ... if anyone from Lenovo is listening, please reply, would buy immediately.”

— LEMONGRAB

AMOS GAYNES
ISSUE 84,
MARCH 29TH, 2013

“Great article on a terrific & fantastic guy! THANK YOU Amos Gaynes and the rest of Bob Moog’s protégés for leading the way for us and keeping the promise of synthesis alive.”

— PETEDAKO



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BRD REDSHIFT MX

Tap for
detail

DIRT-
READY

RANGE
ROVER

POWER
BOOST

THE ELECTRIC MOTOCROSSER

Electric motorcycles are nothing new, but one San Francisco-based outfit has designed a pair of rugged, eco-friendly bikes that are particularly eye-catching. One of those is the RedShift MX: a battery-powered motocrosser that can be made road-ready with a few add-ons. Of course, it doesn't hurt that the machine can go wheel to wheel with a four-stroke 250cc gas rocket in terms of performance either.

THE DAMAGE: \$14,995



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BRD REDSHIFT MX



DIRT-READY

The RedShift MX comes outfitted in race trim. From the fenders to a fully adjustable suspension and spoked wheels, a little mud won't slow this machine down.



PHOTOGRAPHS BY WILL LIPMAN



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BRD REDSHIFT MX



POWER BOOST

The electric motor clocks in at a 25hp continuous clip with a peak output of 40hp. These figures equate to a top speed of 80 MPH (129km/h).

PHOTOGRAPHS BY WILL LIPMAN

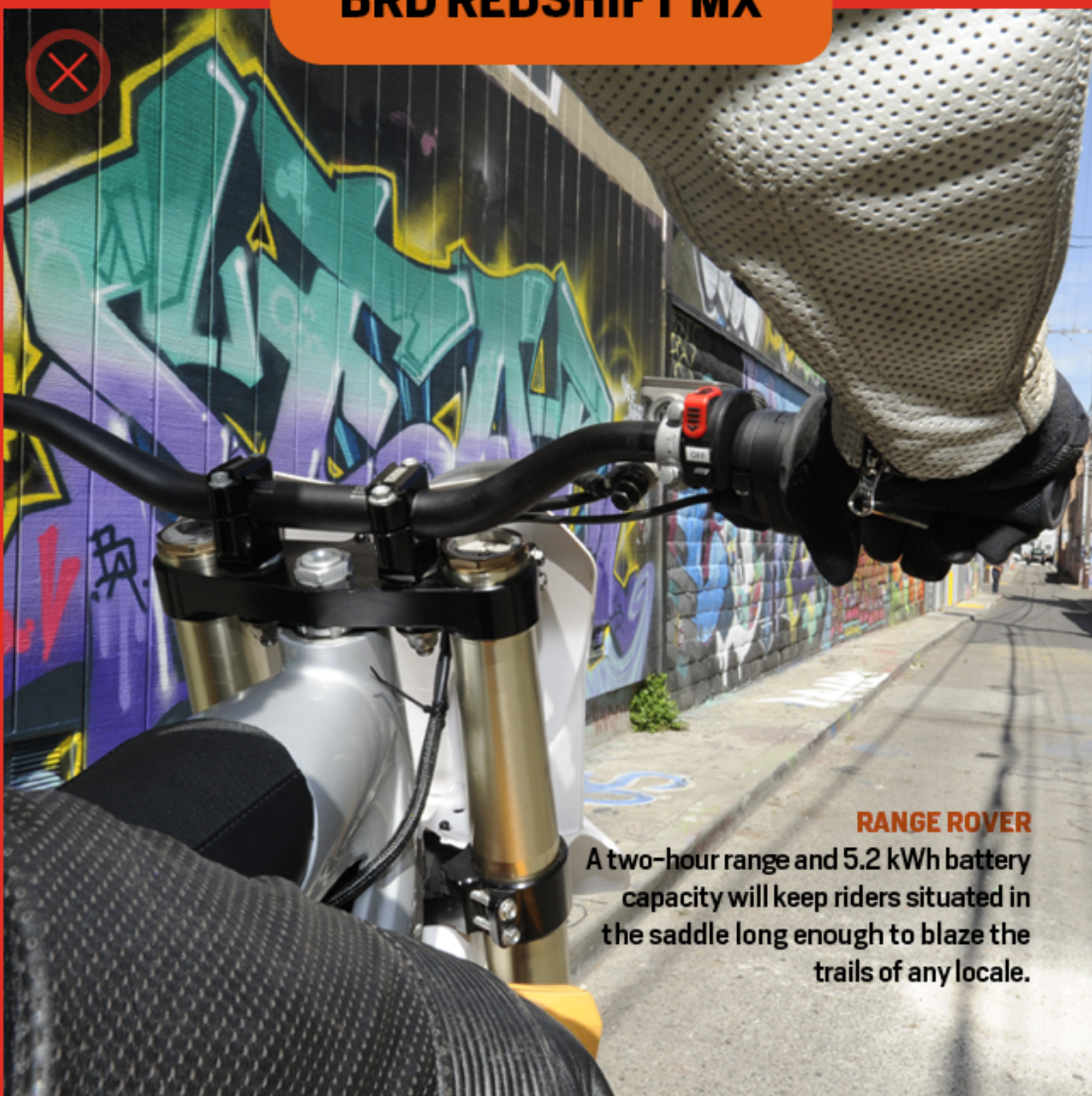


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BRD REDSHIFT MX



RANGE ROVER

A two-hour range and 5.2 kWh battery capacity will keep riders situated in the saddle long enough to blaze the trails of any locale.

PHOTOGRAPHS BY WILL LIPMAN





OUYA

We've already heard what developers have to say about it, but now we have our first hands-on with the miniature, Tegra 3-powered game console we've been hearing so much about since last summer. Our first-blush impressions of the gamepad, unpaired from the console, are mostly positive. The controller has a good heft to it, doesn't feel cheap and the buttons / analog sticks are appropriately clicky and maneuverable. The only real issues are the shoulder buttons and triggers, which both look and feel cheap — the triggers were actually a sticking point for OUYA with the development kit that launched last December, and it seems the company's

PRICE: \$99

AVAILABILITY:
JUNE 2013

THE BREAKDOWN:
THE YVES BÉHAR-
DESIGNED
KICKSTARTER
DARLING TOUTS
ATTRACTIVE
HARDWARE AND
A MINIMAL UI.



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still got some kinks to iron out there.

The faceplates on each side of the controller's face detach, which are where you replace the two AA batteries that power it. OUYA also says it'll offer customizable faceplates, but, well, we're just not that excited by the prospect. Additionally, since it's simply a Bluetooth controller, the OUYA gamepad can be used on any Bluetooth-compatible device; to that same end, any Bluetooth-enabled controller works wirelessly with OUYA.

The console itself is incredibly small. It's less than half the size of the gamepad, actually. What it lacks in size, however, it makes up for in density. The OUYA is a heavy little box, intentionally weighted to support the various cables you'll plug into its rear to hook it up to your television. It's also incredibly quiet — with no discs to spin and a fan that rarely kicks up dust, the OUYA runs whisper-quiet. The brushed aluminum on its four sides looks sharp, and the tinted, glossy plastic up top gives the console a quality look. Hiding the fan on the bottom is another nice touch.

OUYA's software UI is, to put it lightly,

very sparse. Just four submenus branch from the main dashboard: Play, Discover, Make and Manage. The Manage menu is little more than a way to directly access the hidden Android settings. Play acts as your content manager, where both games and applications that you've downloaded reside. Discover is perhaps the most interesting of the areas and it's a curated store helmed by recent hire Kellee Santiago. Not only does it allow for various categorical organization options and featured games, but it also enables popular games to bubble up naturally via thumbs-up icons that users can employ for each game. Make is another unique twist, offering a section for devs to upload builds of their games for all to play.

Troubling, however, is the noticeable lag between the game controller and the OUYA. From games to UI, the lag was a noticeable issue — other journalists we spoke with encountered the same problem. It's not something that's impossible to fix, of course. Even Nintendo's speeding up its Wii U software issues in an upcoming patch, so it wouldn't be a huge surprise to see OUYA correcting the lag issue before June's retail launch.



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HANDS-ON



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PLAYJAM GAMESTICK

PRICE: \$79

AVAILABILITY: TBD

THE BREAKDOWN: THE GAMESTICK COULD MAKE FOR A COMPELLING OPTION WHEN THE FINAL VERSION AND MORE CONTENT ARRIVE.

The GameStick is the second of two Kickstarter-backed, Android-powered game consoles announced in the past 12 months, and it's arguably the less visible of the two. It's roughly the size of a USB thumb drive and runs a dual-core Amlogic processor, rather than Tegra 3. Similar to the OUYA, the GameStick also comes with a proprietary wireless controller — the standard four-button layout, two analog sticks, two shoulder buttons and a d-pad make up its inputs — though the GameStick's controller is actually the bulk of the hardware. The GameStick itself actually nestles into the back of the controller, making the whole bundle rather portable.

Despite looking awkwardly rectangular, the GameStick's angles aren't a hindrance in usage. Buttons are appropriately springy and the analog sticks feel respon-

sive (they also double as buttons, allowing you to click them in). The console's UI is rather spartan, similar to the OUYA's — a left rail holds games, media, a profile page and settings. Enter into the games section and you'll see an area for popular games and one for all games. The media section currently houses a Netflix app and the previously announced XBMC integration. It stands to reason that this will expand dramatically as time goes on, especially given the current dev kit-only release of the GameStick. We also got a chance to check out the dock that'll eventually arrive with GameStick's retail version, which features a whole mess of ports and is also in a prototype stage at this point. It's still a work in progress, so we're reserving some criticism for now, but its current state isn't what we'd call "solid."





WIKIPAD 7

Though Wikipad promises a 10.1-inch version is still in the works, the 7-incher is headed for retail in the coming weeks, with a Tegra 3 quad-core SoC, a 1,280 x 800 IPS screen, Jelly Bean 4.1 and that enormous detachable game controller. There is no way to avoid feeling awkward holding the Wikipad when it's paired to its controller. With the 7-inch screen real estate, the Wikipad controller has your hands stretched apart by eight inches or more — a real issue if you plan on holding

PRICE: \$250

AVAILABILITY:
SPRING 2013

THE BREAKDOWN:
A LESS-EXPENSIVE WIKIPAD DOESN'T EXACTLY MAKE FOR A MORE TEMPTING GAMING HANDHELD.

the set for longer than a few minutes. Resultantly, juggling between the controller's many buttons had us worried we'd end up accidentally

dropping the handheld.

The bulky controller attachment pairs with the 7-inch tablet easily via micro-USB plug, and the mapping worked fine on the few games we played. While the buttons aren't what we'd call high-quality inputs, they're workable enough to far surpass the virtual buttons otherwise employed in many mobile games. That is, admittedly, a low bar to surpass. The change from black to chrome buttons isn't an aesthetic choice we embrace, but it doesn't heavily affect the already cheap look of the controller.

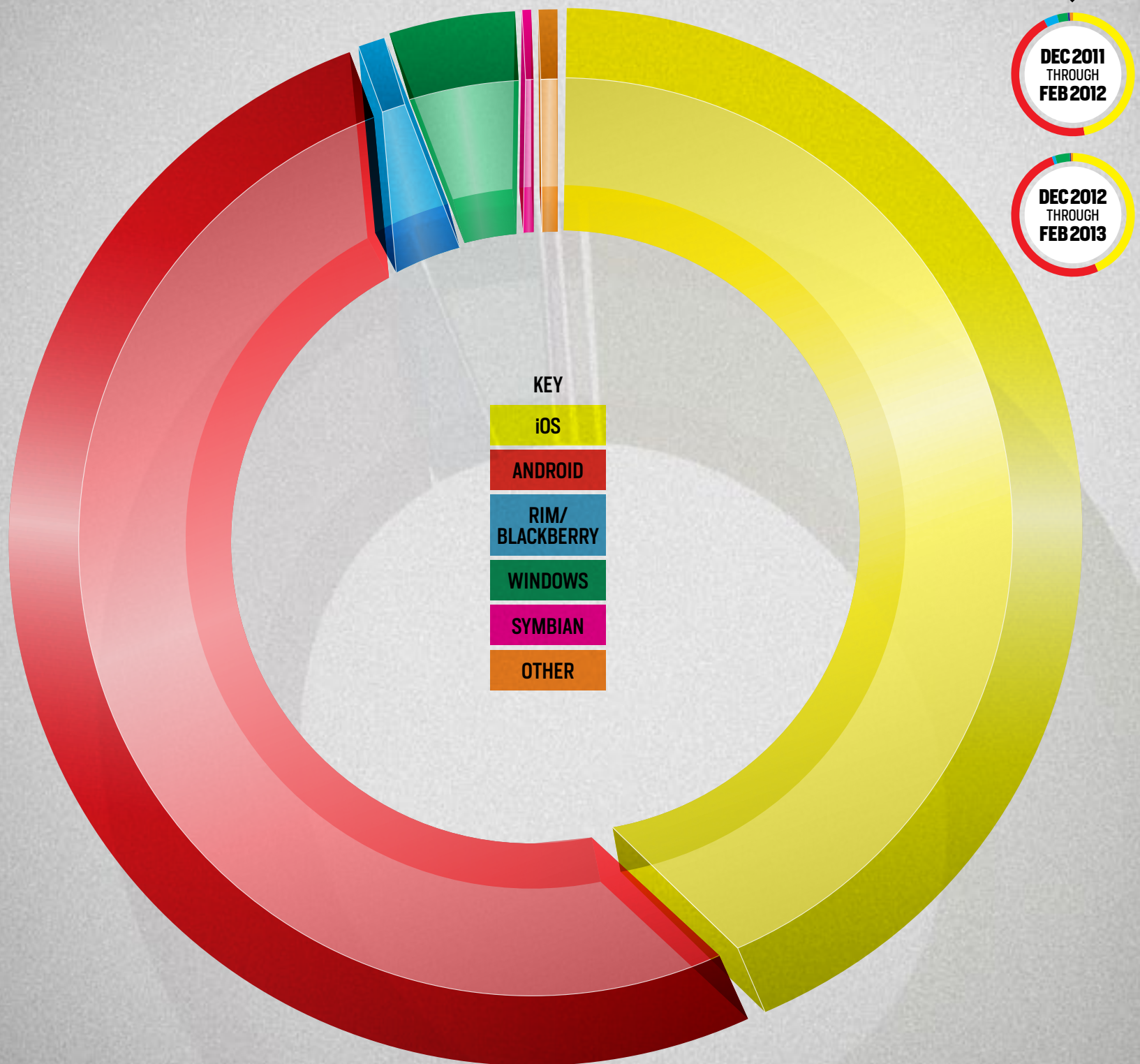
Wikipad's central thrust — the 7-inch tablet — is... fine? It's a fairly standard 7-inch tablet, from specs to build quality. There's a memory slot for SD cards, a single front-facing camera and the aforementioned IPS screen in the middle — nothing exciting, but all the boxes are ticked. The most thrilling aspect of the tablet is its rubberized back with a grippy ridge, meant to both be grabbed and to amplify the device's speakers. **D**



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PERCENTAGE OF US SMARTPHONE SALES BY OS

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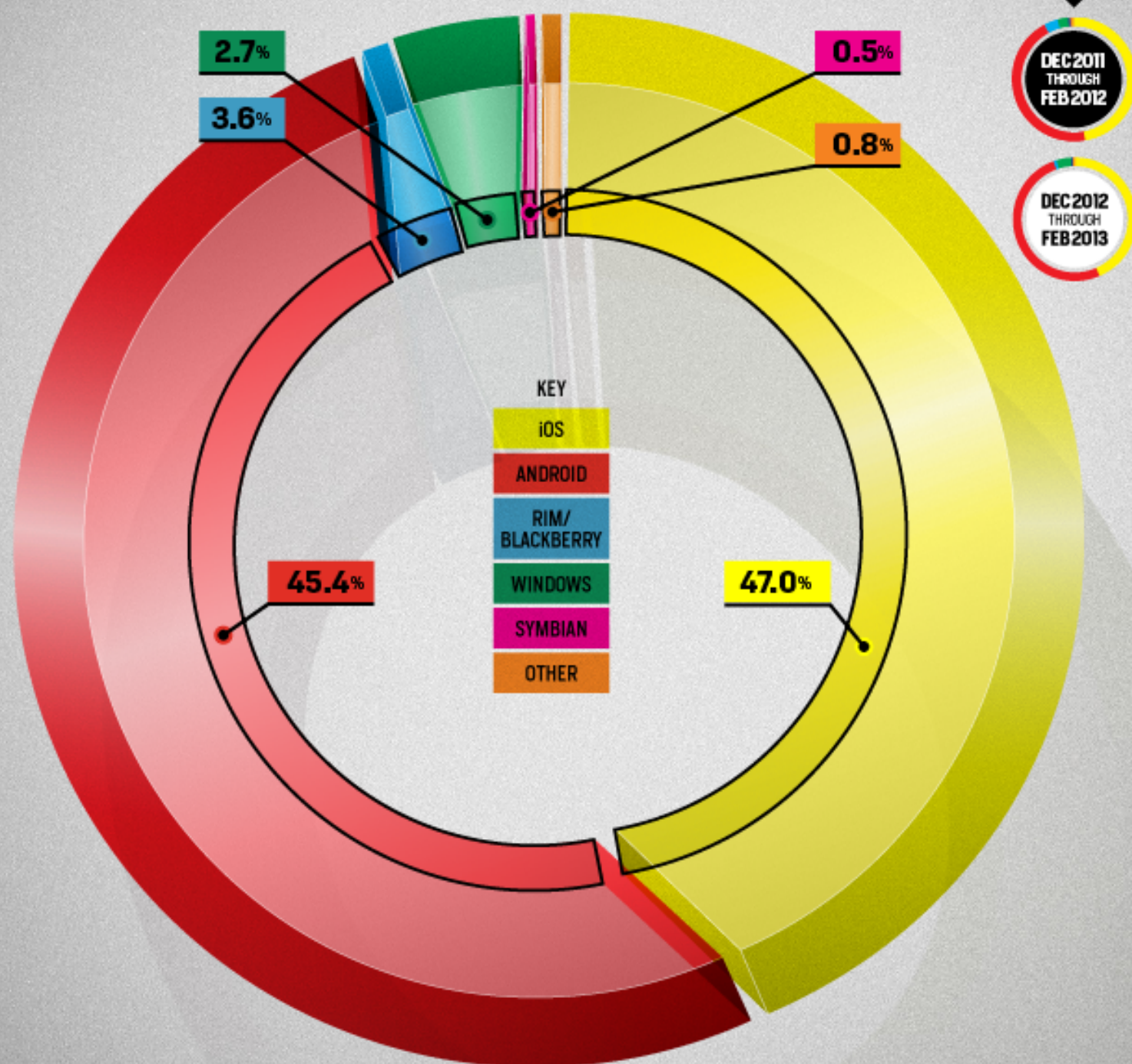
Peak OS Players

Alright, so Microsoft is in no danger of toppling iOS or Android anytime soon. But the analytics firm Kantar has seen significant growth for Windows Phone, largely at the expense of BlackBerry. In practically every major market WP8 has started to chip away at its competitors. The most dramatic ascent has taken place in Italy where it ac-

counted for just 5.4 percent of handsets sold in February of 2012, and now makes up 13.1 percent of sales. Even in the US, Windows Phone is seeing steady, if hardly eye-popping growth. Meanwhile, Apple is sitting pretty with barely a change to its position and Android continues its juggernaut-like assault on all markets. — *Terrence O'Brien*



PERCENTAGE OF US SMARTPHONE SALES BY OS

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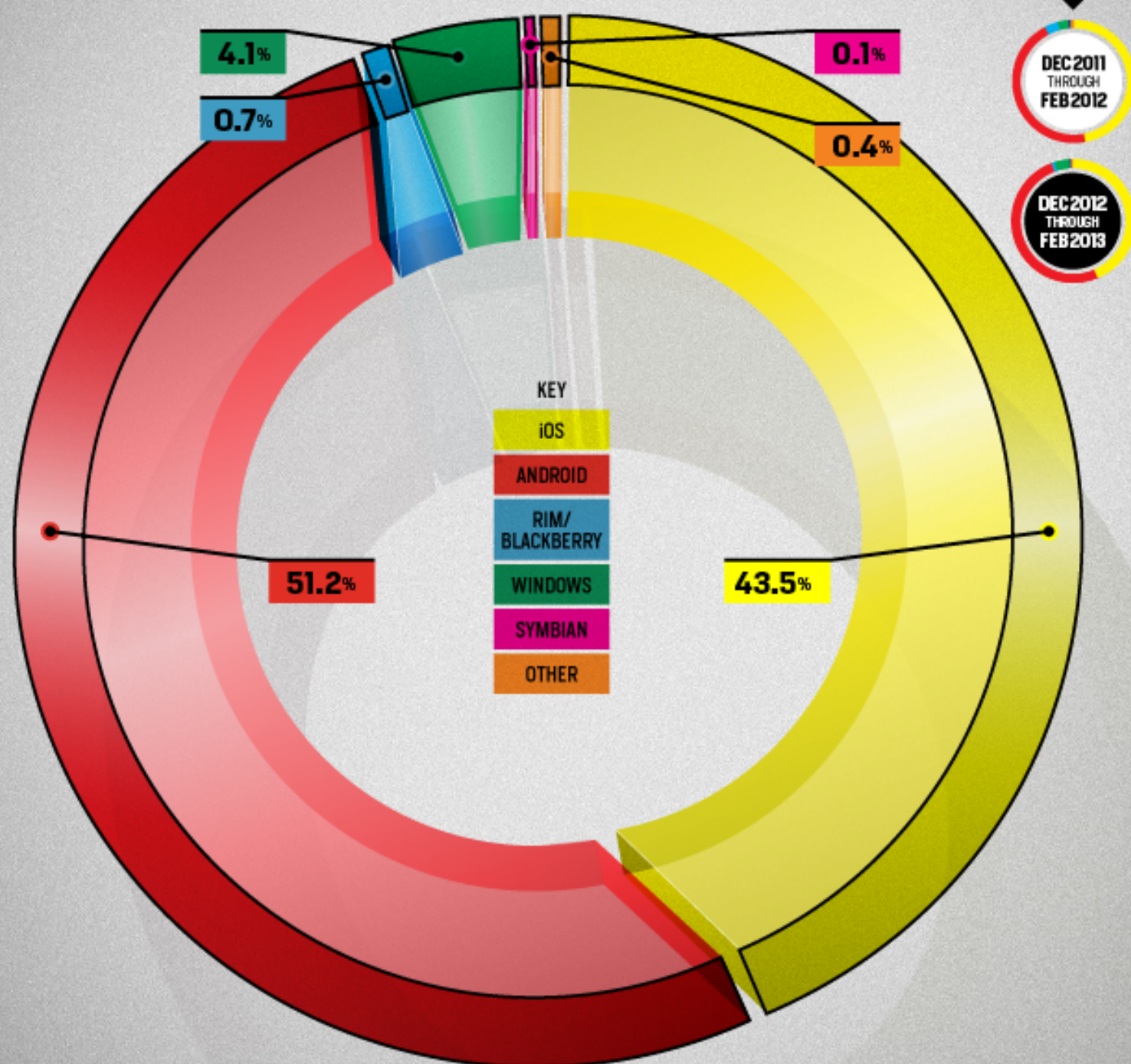
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How Samsung Became the World's No. 1 Smartphone Maker

By Sam Grobart
Bloomberg Businessweek

It's far from the first profile of Samsung to be written following its rapid rise as a smartphone maker, but this one from *Bloomberg Businessweek's* Sam Grobart offers plenty for both those familiar with the company's history and those that aren't. That includes the role of its chairman, Lee Kun Hee, who's seen his share of controversy, and a broader look at the company itself, from its manufacturing facilities to what Grobart describes as two "momentous" decisions in its recent history: its adoption of Android and its bet on big screens with its Galaxy smartphones.

PHOTOGRAPH COURTESY OF SAMSUNG



The Doll That Helped the Soviets Beat the US to Space

By Megan Garber, *The Atlantic*

Most know of the first humans to make it to space, but what about the human-like figures that helped paved the way for them? In this piece for *The Atlantic*, Megan Garber profiles one such trailblazer: Ivan Ivanovich, a mannequin the USSR used for flight tests before sending Yuri Gagarin into space.



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Does the Sneaker Have to Matter?

By Tom Bissell, *Grantland*

We featured an interview with video game writer Tom Bissell here last week, and now we have another interview where he talks to fellow game writer Ken Levine of *BioShock* fame. Much of the discussion naturally focuses on Levine's latest game, the much-lauded *BioShock Infinite*, but it also touches on his writing process and influences, and where he sees narrative games heading.

I Grew Up in the Future

By Veronique Greenwood, *Aeon*

You don't have to look far to find first-person accounts from futurists, but accounts from those living with them are a decidedly rarer occurrence. Veronique Greenwood offers some perspective in this essay for *Aeon* though, recounting what it was like to lug a video phone off to university, and why her mother, the futurist, always seemed to be less interested in the finished products when they actually arrived than when they were just promising ideas.

Steel Yourself

By Will Oremus, *Slate*

Exoskeletons that help the disabled walk and others become stronger have been promised for decades, but they've been making some real advances recently. Here, *Slate's* Will Oremus offers a quick survey of the current state of the technology, from medical tests happening right now to the influx of interest afforded by the *Iron Man* movies.



UNCONVENTIONAL, BUT NOT UNCOMPROMISING



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FORUM

SWITCHED
ON

BY ROSS RUBIN

FOR T-MOBILE, March went out like a lion, a roaring one. With passion for both invention and invective, T-Mobile roared against the contract during its UnCarrier announcement. The nation's fourth-largest (post-carrier) wireless operator will support its move away from contracts with a television spot that shows it as one of four bad guys riding into town to get people to do things their way, but then trades in its "black hat" for a magenta one as it no longer seeks to enforce those policies. T-Mobile says to watch carefully as each of the other bad guys has a distinct personality that reflects one of its main competitors.

T-Mobile is in a battle for getting consumers onto a network that is described as 4G, but evaluating the appeal of its announcement comes down to looking at four S's — subsidy, selection, speed and simplicity.

SUBSIDY

Among the motivators for T-Mobile's change of heart is the notion that people hate contracts; there are none in the new T-Mobile value plans. But is it really contracts per se that they hate, or obliga-



“Whether T-Mobile has succeeded in its effort to simplify depends on the group with which you compare it.”

tions? Fundamentally, the new T-Mobile and its leading competitors are still looking for ways to defray the huge upfront cost of top-tier smartphones. Acquire the handset via other means and T-Mobile will be happy to start charging you for service, but so will its competitors.

Alternatively, you could opt for what

will likely be a growing selection of top-tier phones for T-Mobile’s reduced out-of-store price. T-Mobile gets some credit for addressing the negative connotations of a legally binding agreement and an early termination “fee,” but if you want to keep the phone you obtained at the discounted price, you’ll have to keep paying monthly installments until it’s paid off. One novel twist in all of this is that T-Mobile will offer to purchase back your phone if you don’t want to keep it. As Tim Stevens noted in his recent Distro editorial, the appeal of that deal will come down to T-Mobile’s “fair market value” buyback prices. Given the speedy depreciation of technology,

though, one shouldn’t expect an exceptional bounty.

T-Mobile’s Mike Sievert shows off the complex rival phone plans.



SELECTION


T-Mobile is making the payment cost a bit more transparent. However, the cost of unlocked phones is readily available, and from there the math is simple to figure out how the remainder of the phone price breaks down over two years. In contrast, prepaid operators such as Boost Mobile or Leap Wireless either focus on second-tier phones or offer top-tier phones at a price that is generally out of reach for their customer bases. Score a point for T-Mobile on this, as the easiest to explain of its plan advantages. On the handset side, consumers that are less price-sensitive are looking for good deals on advanced smartphones and the chance to pick up a Galaxy S 4, iPhone 5 or HTC One for \$99 should prove alluring.

SPEED

However, early adopters not only want the latest in smartphones, but also a network that will feed it. T-Mobile notes its data-pricing advantages over Verizon and AT&T, but it is just starting to build out its LTE network. By the time it has 200 million POPs covered at the end of the year, as it says it will, Verizon may well have begun to deploy LTE-Advanced. It's easy for T-Mobile to compare its network prices to those of the Big Two. At least in the near term, though, it faces the tricky task of continuing to claim that its apples are comparable to AT&T's oranges, touting the speed of its HSPA+ network while also selling the advantages of LTE over it and the benefits of the fallback.

SIMPLICITY

Then there's the simplicity argument. At its launch event, T-Mobile CMO Mike Sievert pulled out a small library of AT&T plan pamphlets. The array of options thematically mirrored a funny video loop played at the event showing the stars of IFC's *Portlandia* trying to buy a cellphone plan in a hurry, but getting bogged down by a mad maze of plans and double-talk. (One option presented was "free" after you paid a "one-time fee" for it every year.) Whether T-Mobile has succeeded in its effort to simplify depends on the group with which you compare it. The carrier has made headway against its larger competitors, but its plans are not as "get up and go" simple as those of leading prepaid offerings as they offer more options such as second lines and installment plans for which some details have yet to surface.

Ultimately, T-Mobile is making a stronger push toward Bring Your Own Device while acknowledging that many consumers still look to their carrier as a way to acquire leading-edge technology for a low upfront investment. It's made immediate progress on differentiation and devices with the promise of a more competitive network in the offing. The most impressive aspects of its new positioning are the flexibility that it's been able to provide without excessive plan complexity and greater transparency as it closes in on a network-capacity expansion boon in MetroPCS. 



WHEN WE GOOGLE TOO MUCH

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THIS IS THE
MODEM WORLD

BY JOSHUA FRUHLINGER

OUR CAT MISCHA IS ILL, and I am sad. But sadness is only one of the things I am feeling. Because of technology and the internet, I am angry, frustrated and a little bit freaked out. ¶ Here's why.

One of the many great things about technology is that, like an all-knowing oracle, it provides answers to virtually anything. One has to wonder what religions a more primitive humanity would have erected around the mighty search engine. Type in any question and get an answer. Want to know why David Bowie lived in West Berlin in the '70s? You can get that answer in seconds. For those curious, Bowie lived with Iggy Pop in Germany while cleaning up his, shall we say, health.

All this information at our fingertips and voice prompts are, in total, a good thing, but there are times when knowing too much does us no good. Cyberchondria, for instance, is a somewhat recent phenomenon in which individuals convince themselves that they are coming down with some sort of horrible

ailment as a result of over-searching symptoms. In my case, I've convinced myself at one point or another that I have diabetes, brain cancer, manic depression, hypertension and a raging case of sleep disorder.

According to my physician, I'm completely normal. But little does he know that I'm coming down with trichotillomania. I'll show him.

Access to all this knowledge produces some bizarre behavior in humans.

There are the know-it-alls who make our everyday lives miserable. These guys can be heard offering up factoids picked up from a message board here and a Wiki page there. He is often Googling answers during dinner conversations. He is always right, and he is convinced that the entire body of human knowledge is available a click and tap away.



“Access to all this knowledge produces some bizarre behavior in humans.”

“Benjamin Franklin gave guitar lessons. I read it online,” he tells us.

By the way, people who own geese are called gozzards.

I don’t know about you, but while I like knowing things, I certainly don’t want to know *everything*.

There are also the smarmy “Let me Google that for you” types who, when asked a simple question that you figure falls within their expertise, tell you to go look it up yourself, as if engaging in conversation about something potentially interesting is exhausting and unnecessary.

Excuse us for asking, right?

And then there’s the case of our cat. A few weeks ago, what started out as a respiratory infection turned into a weekend at the animal hospital, expensive CT scans, even more expensive camera-probing and a trip back home with an invasive feeding tube attached to the poor girl.

Doctors are preparing my wife and me for the worst, and I am acting out the only way I know how: mad amounts of online searches, reading PDFs meant for medical students, digging through forum archives and then searching some more.

The net result is too much infor-

mation, countless potential prognoses and exponential stress before the doctors even have a chance to study biopsies and tell us what’s up. My head is playing out endless endgames, hypotheses and I’m second-guessing myself as I find new facts in fresh corners of the internet. It’s not pleasant, nor is it relaxing.

My hopes rise as I read accounts from other cat owners who got their little friends through similar scenarios. Those same hopes are dashed moments later as other owners recount final days.

Yes, knowledge is power, and the internet is teeming with knowledge, but I find myself — at least this week — wishing for an internet-free world in which doctors have all the information and I am just the caregiver. In that world, I would patiently wait for information, hope for the best and react to what I am told at the time. There would be no choices; there would be little to no research. Maybe a trip to the library, but that would be that.

Ignorance, as they say, is bliss, and in some cases, knowing too much can send us in circles.

That all said, I wouldn’t have it any other way. I like knowing things, and my hunger for knowledge is more than half the reason I love the internet. I also love watching dash cam videos from Russia, but that’s a story for another day.

Sometimes, though, I wish I didn’t know what I know.

Just sometimes. 



REVIEW

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**MSI
Slidebook
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REVIEW

MSI SLIDEBOOK S20



Can MSI's
S20 conquer the ill-
fated sliding form
factor and offer
Ultrabook buyers
a petite, flexible
alternative?
By Dana Wollman

If you've been following our reviews of Windows 8 laptops, you know we haven't been too kind to the slider form factor. It's not like we set out to pan these machines, but time and again we've found that the propped-up display ruins the typing experience. Keep that in mind as we begin our review of the Slidebook S20, MSI's flagship Win 8 device, priced at \$1,200 in the US. It's a bold move from a company whose bread and butter is not ultraportables, but gaming systems. In fact, the 11.6-inch S20 is the outfit's *only* high-end Windows 8 Ultrabook. So the



company must have quite a bit of confidence in that form factor, then, if it didn't bother with dockable tablets or some other kind of convertible design. Could that mean the S20 has something all the others don't?

LOOK AND FEEL

Back when we first saw the S20 at Computex 2012, we came away wondering if perhaps MSI was returning to its netbook roots. Chiefly, we were referring to its cramped keyboard but as it happens, our dismissal could easily apply to the rest of the design as well. Part of that has to do with the materials used. Save for the underside, which is made of aluminum,

For a machine with the word “slide” in the name, it's awfully hard to open.

the entire thing is fashioned out of plastic. White plastic, with a couple chrome accents thrown in near the keyboard for good measure. The screen, in particular, is ringed with a wide band of shiny stuff — it has a subtle metallic sheen if you look closely, but from afar it just looks plain and tacky.

On the plus side, the underbelly — you know,

Much of the Slidebook's exterior is wrapped in white plastic.



the area that becomes exposed when you slide the screen up — is much more polished than on other sliders we've seen, like the Toshiba Satellite U925t. Which is to say, you can't see any exposed hinge mechanisms or anything of that ilk. What you will find, however, is a large vent sitting right behind the display — a trade-off for having a perfectly smooth bottom side. That fan had to go somewhere, right?

All our snark aside, it's the build quality that makes it impossible for us to take the S20 seriously. For a machine with the word "slide" in the name, it's awfully hard to open. Every time you slide (nay, push) the display back, you can feel it rubbing up against the keyboard underneath. There are other off-putting details too: if you press the Start button on the lower bezel while the screen is propped up, the entire display moves. The screen is easy to jiggle once it's upright.

If we can offer a ray of sunshine here, MSI did get the overall shape right. The build quality, not so much, but at least it's comfortable to hold. The curved edges and rounded-off corners mean it'll never dig into your palm when you're holding it one-handed.

Scattered about the machine is an impressive collection of ports — Ultrabooks are usually lacking in that department, with 11-inch models getting the shortest end of the stick. Somehow, though, MSI squeezed in an Ethernet jack and full-sized HDMI socket, along

with two USB 3.0 connections, an audio port and a memory card reader, tucked around back.

KEYBOARD

You know what's fun? Writing a laptop review using a keyboard that has no built-in touchpad or tracking stick. It's not something that bothered us either of the times we got hands-on, but it's plenty annoying once you try to get some real work done in desktop mode. For those of you who have a Bluetooth mouse handy, this shouldn't be a big deal, though even then, who wants to have to pack a mouse every time they take this thing on the road? If you're okay bringing your own peripherals, that's fine, but if MSI attempts to build another Windows 8 slider, we'd suggest adding a small touchpad like Toshiba did, or even an optical tracking point à la Sony.

It's a shame because we don't hate the keyboard *quite* as much as we thought we would (you know, given our previous experience with sliders). Considering the keyboard only takes up about half the available deck space, the keys feel fairly well-spaced, though the layout is still cramped compared to a normal clamshell laptop, and the underlying panel could definitely be sturdier. More than anything, we struggled with the shallow pitch, which meant our key presses didn't always register. It's unfortunate, for sure, and it's a problem we have with most Ultrabooks,





The keys are well-spaced, but it's a cramped typing area.

frankly — can't have a thin laptop with a fat keyboard panel, don'tcha know?

Finally, in case you're wondering, the keyboard isn't backlit, which sort of stinks when you're paying \$1,200 for a laptop. It's a feature you might not need, per se, but at this price, it's one you'd expect to have.

DISPLAY AND SOUND

Though we're not normally into sliders, the S20's display, ironically enough, might be our favorite thing about it. For starters, it comes stacked with excellent credentials: IPS technology for wide viewing angles, with 1,920 x 1,080 pixels crammed into an 11.6-inch panel (talk about dense). Just as important,

though, MSI did a very smart thing in making the screen angle adjustable — something you won't find on other sliders, or most dockable tablets, for that matter.

The S20 has two speakers, each located on the bottom side, though not in any sort of symmetrical arrangement. Despite the asymmetry there, the soundstage feels balanced — until we went hunting for the speakers, we weren't sure exactly where the audio was coming from. And that's a good thing: no one wants to watch a movie with the sensation that all the explosions and sound effects are coming from somewhere on the left. I also found that although the speakers sit on the un-





The viewing angle on the Slidebook S20's screen is adjustable.

derside of the device, the sound didn't really get muffled when listening to music with the laptop in my lap. As you can imagine, the quality itself is a bit tinny, but it's no worse than most other laptops we've tested. Keep the volume somewhere short of the top level, and you should get by without much distortion.

PERFORMANCE AND BATTERY LIFE

Unlike most other Windows 8 Ultrabooks we've tested, the S20 comes standard with eight gigs of RAM, not four. And while that doesn't appear to boost the performance very much, it

certainly doesn't hurt it either. If you look at the benchmark scores, the S20 actually notches slightly lower results than other Core i5 machines, such as the Toshiba Satellite U925t, the Dell XPS 12, the Lenovo IdeaPad Yoga 13 and even the Microsoft Surface Pro on certain tests.

That said, we'd be crazy to write off the S20 for delivering bad performance. What's not to like about an eight-second startup time? It's not like other Ultrabooks will boot into the Start screen faster, anyway. And while the SanDisk SSD's peak read speeds of 484 MB/s rank slightly below what we've seen, those



BENCHMARK	PCMARK7	3DMARK06	3DMARK11	ATTO (TOP DISK SPEEDS)
MSI SLIDEBOOK S20 (1.8GHZ CORE i5-3337U, INTEL HD 4000)	4,043	3,944	E1,053 / P578	484 MB/S (READS); 286 MB/S (WRITES)
ASUS TAICHI 21 (1.9GHZ CORE i7-3517U, INTEL HD 4000)	4,998	4,818	E1,137 / P610 / X201	516 MB/S (READS); 431 MB/S (WRITES)
MICROSOFT SURFACE PRO (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,673	3,811	E1,019 / P552	526 MB/S (READS); 201 MB/S (WRITES)
LENOVO IDEAPAD YOGA 13 (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,422	4,415	E917 / P572	278 MB/S (READS); 263 MB/S (WRITES)
TOSHIBA SATELLITE U925T (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,381	4,210	E989 / P563	521 MB/S (READS); 265 MB/S (WRITES)
DELL XPS 12 (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,673	4,520	N/A	516 MB/S (READS); 263 MB/S (WRITES)

286 MB/s writes are right on par with the competition. All told, we had no problem writing this review on the machine while juggling various open tabs in IE10. Well, no problems except for that cramped, bendable keyboard, anyway.

BATTERY LIFE

It's a sad, sad day when a laptop lasts just four and a half hours on our battery life test, and we say, "Hey, it could've been worse." Still, when we saw the S20's battery life results,

we did little more than shrug. Yes, 4.5 hours is bad, but given that most touchscreen Ultrabooks with Ivy Bridge processors deliver poor battery life, we've had to lower our expectations a bit (or a lot). Consider, for instance, that the 11-inch ASUS TAICHI 21 lasted 3:54 in the same test, while the Surface Pro squeezed out a similar 3:46. Even so, the Toshiba Satellite U925t and the Sony VAIO Duo 11 are each capable of about five hours, give or take a few minutes.



	BATTERY LIFE
MSI SLIDEBOOK S20	4:34
ACER ICONIA W700	7:13
SAMSUNG SERIES 9 (13-INCH, 2012)	7:02
MACBOOK AIR (13-INCH, 2012)	6:34 (OS X) / 4:28 (WINDOWS)
DELL XPS 14	6:18
SONY VAIO T13	5:39
LENOVO IDEAPAD YOGA 13	5:32
DELL XPS 12	5:30
SAMSUNG SERIES 5 ULTRATOUCH	5:23
ASUS ZENBOOK PRIME UX31A TOUCH	5:15
ASUS ZENBOOK PRIME UX51VZ	5:15
TOSHIBA SATELLITE U845W	5:13
TOSHIBA SATELLITE U845	5:12
ACER ASPIRE TIMELINE ULTRA M3	5:11
TOSHIBA SATELLITE U925T	5:10
LENOVO THINKPAD X1 CARBON	5:07
ACER ASPIRE TIMELINE ULTRA M5	5:05
LENOVO THINKPAD X1 CARBON TOUCH	5:00
SONY VAIO DUO 11	4:47

SOFTWARE AND WARRANTY

The good news is that it's slim pickings as far as unwanted pre-installed software goes. All we found on our test system was Evernote, Fresh Paint, Music Maker Jam, PuzzleTouch, CookBook and a trial of Norton Internet Security. There's also Skype, but that doesn't even register as bloatware, seeing as how Microsoft owns Skype now, and it's a useful, widely used application. If you're not a gamer, you might not appreciate the pre-loaded Xbox Live games, but fortunately, they're few in number: it's just *Adera*, *Microsoft Mahjong*, *Pinball FX2*, *Taptiles* and *Microsoft Solitaire Collection*. As for the warranty, the Slidebook S20 comes with one year of coverage, putting it on par with almost every other consumer laptop we've tested.

CONFIGURATION OPTIONS AND THE COMPETITION

In the US, at least, you'll find just one configuration for sale: the \$1,200 model we tested with a Core i5 processor, 8GB of RAM and a 128GB SSD. That means you better be willing to do without Core i7 or a bigger 256GB drive if you're going to go all-in.

If, after all our kvetching, you still think a slider is the way to go, we'll

You're better off with a different form factor.





The fans vent out through grilles under and behind the display.

begrudgingly walk you through some (slightly) better options. Starting with Sony, the VAIO Duo 11 also lacks a touchpad, but at least has two small touch buttons and an optical tracking stick wedged into the middle of the keyboard. Again, the battery life is longer, too, at around five hours. The bad news? The \$1,200 model starts with lesser specs — a Core i3 processor and four gigs of RAM — but at least you even *have* the option to upgrade to Core i7 and a 256GB drive. Meanwhile, Toshiba's Satellite U925t starts at a more reasonable \$1,050 with a Core i5 processor and 4GB of RAM, but the screen resolution is fixed at 1,366 x 768, and you can't configure it with

better specs.

Honestly, though, you're better off going with a different form factor altogether. Our reigning favorites are the Lenovo IdeaPad Yoga 13, whose screen folds all the way backward like a book, and the Dell XPS 12, a laptop whose display pops out of its hinge allowing you to flip it over into tablet mode. Both offer comfortable keyboards with comparable performance and battery life; the Yoga is probably the more versatile of the two, though the Dell XPS 12 benefits from a sharper 1080p display (the Yoga 13 is 1,600 x 900 only).

And who knows what other convertibles we're going to see in the coming



months, particularly once Intel starts shipping its Haswell chips? We're already waiting with bated breath for the Lenovo ThinkPad Helix, an 11-inch laptop / tablet hybrid with a keyboard dock that lets you insert the tablet with the screen facing either forward or backward (great for presentations). That's delayed until at least later this month, though. And that's not even counting all the Ultrabooks we don't yet know about. So, it might be worth waiting — good advice regardless of whether you want a notebook from MSI or any other manufacturer.

WRAP-UP

Nope. Still not sold on the slider form factor. Like we've been saying, Ultrabooks with this design are flawed almost by definition, with the propped-up display usually ruining the typing experience. That's true of the Slidebook S20 too, though

the build quality is so lacking that we're almost insulted MSI dared to charge \$1,200 for this thing. It's also tough to recommend a laptop with high-end, Ultrabook-grade specs when it doesn't even have a mouse or touchpad for navigating desktop apps in 1080p.

If nothing else (and really, there aren't many nice things to say), we appreciate that the battery life is longer than on some other 11-inch PCs with similar specs. What's more, MSI figured out how to make a slider with an adjustable display, which other OEMs should take note of — *if* they decide to make any more systems with this form factor. Truly, though, we'd suggest getting another slider or, better yet, an Ultrabook with a different design altogether. **D**

Dana Wollman is Reviews Editor at Engadget, a marathoner, lover of puns and a native Brooklynite.

BOTTOMLINE

MSI SLIDEBOOK S20

\$1,200



PROS

- Adjustable display — a rarity on slider laptops
- Decent audio
- Good port selection

CONS

- Inferior build quality
- Cramped, flimsy keyboard
- No touchpad or mouse
- No configuration options

BOTTOMLINE

MSI chose the wrong form factor for its flagship Windows 8 Ultrabook: the S20 suffers from an uncomfortable keyboard, poor build quality and an awkward design that includes no pointing device whatsoever.



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REVIEW

RAZER EDGE PRO



Can the **Edge Pro** offer a high-performance PC gaming option in a mobile form factor?
By Sean Buckley

Portable gaming isn't what it once was. Sure, you can still snag a handheld device from Sony or Nintendo, but today's video game industry is *far* more diverse. Gamers on the go have no shortage of hardware to pick from: tablets, smartphones, gaming laptops and purpose-built handhelds are redefining what a mobile gaming platform is. Razer CEO Min-Liang Tan must have felt the winds of change blowing his way when he cooked up Project Fiona, now known as the Razer Edge. The company's marketing material frames the curious device as an all-in-one gam-



ing arsenal; it's a tablet, says the product page, as well as a PC and console. Above all, it's modular, a souped-up tablet with a small collection of docks and cradles designed to scratch your gaming itch from all angles. All told, Razer calls it the most powerful tablet in the world. Kitted out with the specs of a mid-range gaming laptop, it may very well be that — but we couldn't let the proclamation pass without giving it the once-over ourselves.

HARDWARE

At first glance, the Edge looks strikingly familiar, with its 10.1-inch screen and thick, generic bezel. With the exception of two indentations centered on the device's north and south edges, Razer took almost no liberties with the dull standard of tablet design. The result is boring, but functional. Thankfully, the Edge's aluminum backside shows a little more personality, borrowing a subtly ridged design profile from the Razer Blade laptop. A pair of tiny humps lines the port and starboard sides of the backplate's horizontal expanse, endowing the system with a tactile anchor point and some much-needed visual flare. Decorated with a backlit Razer logo,

the plate gently curves into the device's outer frame, smoothly fitting the user's palm without digging in.

The Edge chassis' forgiving shape may leave your hands unmarred, but fatigue is a real issue — there are limits to how long one can hold a 2.1-pound tablet aloft. Shoppers pitting Razer's slate against the Surface Pro should note that it's larger all around, at 10.9 x 7 x 0.8 inches. Heavy, to be sure, but at least its specs match or best the Surface at every turn: 4GB to 8GB of DDR3 RAM, up to 256GB of solid-stage storage, an Intel Core i5 or i7 CPU and discrete NVIDIA graphics. The only area where Microsoft still reigns supreme is in display quality: the Edge maxes out at 1,366 x 768, while the Pro comes stocked with a 1,920 x 1,080 panel. More on that shortly, but for now, let's finish our hardware tour.

The tablet's bottom edge

The Edge's top side has a USB 3.0 port and 3.5mm audio jack.



features a 40-pin connector flanked by stereo speakers and two peg holes, used to lock the Edge into its dock and controller accessories. These pegs are mirrored by a pair of divots on the device's top edge, accompanied by a Razer-green USB 3.0 port, a 3.5mm audio jack, volume controls and an LED-equipped power button. There's also a pair of keys to lock automatic screen rotation and activate Windows 8's software keyboard. The latter came in extremely handy, as we found that some games routinely activate the Windows 8 virtual keyboard by mistake. The Edge's backplate features two large vents north of the company logo, while the front is decorated with only a Windows

button, a pair of array microphones and a 2-megapixel camera. All in all, a very well-built piece of hardware, if a bit on the heavy side.

ETC.

Unfortunately, this review is missing a major component to the Edge's family of products: the keyboard dock. It's odd to think that the Edge is launching without the kind of accessory sold with every other Windows 8 tablet, but here we are. Razer says the keyboard is due out sometime in Q3, for an undetermined price. We can't say how it will fare when it arrives, or guess at

how much it might cost, but we *can* say we sorely

Razer's Edge was never meant to be a standalone slate.



miss it now. All other things considered, the Razer Edge is very much a PC, and installing games, managing data and working from the device without a proper keyboard was a troublesome, uncomfortable affair. Without this missing accessory, the Edge felt incomplete. We look forward to revisiting the device once it's fully equipped.

Earlier, we pinned the Edge's 1,366 x 768 IPS display as one of its technical shortcomings, particularly compared to the Surface Pro. As dazzling as the Surface Pro's 1,920 x 1,080 display may have looked, though, its resolution outpaced its panel size, forcing us to bounce between two different text-scaling configurations depending on how we were using the tablet. The Edge's smaller panel offers no such frustrations, retaining a 1:1 pixel ratio in its default configuration. No scaling, no tweaking, no trouble. It's also possible that the lower-fidelity display was selected to limit the demand on the GPU and improve game performance. Either way, the smaller panel seems to be working in the device's favor, and it looks quite good, with strong colors, pure whites and deep blacks. Not amazing, but good. We'd go as far as to say that it's Razer's best display, though, outperforming the Razer Blade's higher-resolution panel in both contrast and color quality. At worst, the screen's viewing angles are spoiled a little by the screen's glossy finish — it doesn't matter how crisp an image is if it's sur-

rounded by unwanted reflections.

We don't expect a lot out of tablet speakers — just loud, clear and undistorted noise of our choosing. Luckily, the Edge sounds *just* about right. The tablet's stereo speakers may reside on its bottom ridge, but the sound they produce resonates throughout the entire device, pouring out of its air vents as if by design. It may not be the highest-fidelity sound, but it's balanced with very little distortion. The Edge's speakers are well-suited to a single user, or even a small group crowding around the screen. Gamers craving a more robust audio experience will have to find a suitable headset, or else pipe audio out through the tablet's docking station, which supports Dolby Home Theater 7.1.

The pinhole, 2-megapixel webcam is good enough for Skype, but little else. It produces grainy, muddled images, and video captured using Windows 8's camera app stutters and lags, regardless of resolution (from 320 x 240 to 1,920 x 1,200). Third-party programs fared better, but still failed to capture smooth video at higher resolutions. Anything above 640 x 480 was a jittery mess.

GAMEPAD

We typically judge gaming machines by their performance — framerates, benchmarks and the like. Razer's Edge sidesteps our usual approach, as it eschews traditional input methods. No keyboard, no trackpad and no easy way





to save the proverbial princess — at least not with the Edge alone. Most PC games demand more input than mere touch, although there are exceptions. *Civilization V*, for instance, offers a control scheme built specifically for touchscreens, and point-and-click adventure titles like *Back to the Future: The Game* flawlessly bend to the will of a well-placed finger. Unfortunately, not all cursor-controlled games are equal: *The Sims 3* and *XCOM: Enemy Unknown* can both be *managed* with the Edge's touchscreen, but the experience is awkward, frustrating and generally not worth the effort. As a standalone tablet, the Edge is powerful — but it's not a capable gaming device.

The Gamepad offers the handlebars of Project Fiona.

To be fair, the Edge was never *meant* to stand on its own — the product's first public prototype, Project Fiona, featured two handlebar controllers grafted directly onto its frame. Cost concerns and customer demand eventually pried the gnarly gamepad from the tablet's chassis, creating a modular powerhouse with the *option* of becoming a gaming rig. Gamers who take that road will find it tough on the wallet: Razer's gamepad attachment costs a staggering \$250, a full one-fourth of the base tablet's purchase price. Shocked? You shouldn't be. Razer's made a habit of offering expensive toys. It promises its customers an excellent experience, not fantastic savings. If your bank balance



can take the hit, you'll find the Edge's controller accessory does at least live up to such claims.

The Edge fits snugly into the gamepad's milled-aluminum frame, secured by a spring-loaded mechanism on the accessory's bottom ridge. A pass-through data port sits below the spring and the two flanking release tabs. On the top, two plastic portals grant access to the device's USB and audio ports. The tablet's native power, volume, keyboard and lock toggles are replicated here too, ensuring that no manner of control is lost by switching the slate into "game mode." Behind the tablet, two rubberized springs push off of the cradle's backplate, providing a cushion for the Edge's aluminum back and presumably preventing installation scuffs, too. So it's expensive, yes, but clearly well-thought-out.

The attention to detail carries over to the game controls, too. Shooting off the tablet's sides like a pair of PlayStation Move wands, the gamepad's handlebars tout the standard array of console toggles: a d-pad on the left and X, Y, A and B buttons on the right. Each button channels Razer's experience building Xbox 360 controllers; firm, but with enough

spring to respond with a satisfying pop. The directional buttons are top-notch as well, aping the design aesthetics of Razer's Sabertooth gamepad while giving the PS3's island-style d-pad a run for its money. Each grip also has a thumbstick, two shoulder buttons, a start / select toggle and a trigger, which bests the standard gamepad layout by two buttons overall. Finally, the controller is home to the Edge's extended battery pack, which promises users an extra eight hours of casual use and up to two hours of gameplay.

The oversized cradle aims to lend the Edge the countenance of a mobile game console, and once the setup is finally put together and a game is running, it does a passable job. The tablet feels like it belongs in the accessory, which in turn feels *right* in the user's hand. The quality of the hardware sells the experience, and it's a good experience. Like

The \$250 Gamepad accessory tacks on some weight.



everything though, the gamepad has its faults. Weighing in at almost two pounds, it nearly doubles the heft of the device, adding to our earlier fatigue concerns. It's fairly large, too, making it unwieldy when not in use. We pity the fool who elects to take all this on a cross-country flight — carry-on space is limited as is.

DOCKING STATION

Despite PC gamers' tendency to lord their rigs' graphical superiority over console users, it's hard to deny the simple joy of slouching lazily in front of a massive HDTV. Sadly, dragging PC rigs out to the living room is no easy proposition — even if you manage to rustle up the right cables and find an unobtrusive place in your entertainment center for a PC tower, the couch is no place for a keyboard and mouse. The solution? The Edge — or at least that's what Razer would have you believe. The tablet's docking station is the cornerstone of what the company refers to as “home console mode,” which boils down to the combined efforts of an HDMI-equipped cradle and the Edge's Razer Launcher software. Physically, the \$100 dock is pretty simple: a groove for

the tablet on the front, and a line of connectivity options in the back. Three USB 2.0 ports, an HDMI-out plug, audio out, audio in and a power connector race across the cradle's rear, running left to right. Simply add power, TV-out and your favorite Xinput-compatible gamepad, and you're ready to go.

Dropping the tablet into the dock is one of the easiest PC-to-TV setups we've ever used. The cradle automatically configures the new display as the Edge's primary, avoiding the fuss of manually tweaking the display settings in Windows. Activating the Razer Launcher software completes the experience, replacing the tablet's regular desktop with a gamepad-friendly user interface.

It's from here that Razer hopes you'll launch your PC games, potentially sidestepping the typical headache of playing computer games on the TV. It puts forth a valiant

Home console docking is a breeze to set up.





A console gamepad doesn't quite cut it for PC titles.

effort, offering to automatically launch when Windows boots, and giving users the option to immediately return to the launcher after closing a game. Give it the ideal conditions, and you're in pseudo-console heaven: DRM-free games with excellent gamepad support launch with nary a complaint, and immediately drop the user right back into Razer's fake ecosystem after termination. Unfortunately, pop-up dialogs, game-specific launchers, Steam notifications and Origin's browser-based matchmaking system (*Battlefield 3*) left us reaching for our mouse far more often than we would have liked. Worse still, the launcher would occasionally butt heads with other programs, kick-

ing us back into the Razer Launcher before our game of choice finished booting. Sometimes, the launcher dropped us on the Windows desktop, waiting endlessly for a game that would never start.

Frustrated, we turned our attention to Steam's Big Picture mode, which we had configured to be launchable via Razer's setup. Here, we fared a little better — Valve's 10-foot UI faced less adversity launching games from its own well-policed ecosystem. The experience benefits from Valve's history as a content provider *and* a game developer, enjoying an attention to detail that goes deeper than the Big Picture front-end. *Team Fortress 2*, for instance, took no-



tice of the situation, prompting us for preferences. “I noticed you are running under Big Picture,” it says. “Would you like to enable game controller support?” Yes, absolutely. Sadly, not even the polished potential of Valve’s Steam-box interface could overcome the invasive nature of Windows errors, DRM and game-specific launchers. “GSGame-Exe.exe has stopped working,” protested one gamepad-arresting dialog. Sigh. Where’s that mouse again?

The limited input you’ll get on a traditional console gamepad simply fails to meet the needs of a PC, no matter how hard it tries to emulate a console. In the Edge’s pseudo-portable mode, the odd game launcher or errant virtual keyboard could be dismissed with a quick tap of the touchscreen, but managing these missteps in “console mode,” is a less-trivial matter. The ease with which the Edge connects to the home theater is a huge step in the right direction, but it won’t free you from the necessity of a mouse and keyboard. That said, there’s plenty of room on the dock’s backside for the essentials. A wireless keyboard, a couch mouse and our gamepad left us well prepared to handle the occasional stutter.

PERFORMANCE AND BATTERY LIFE

So you’ve picked your accessories, tussled with Razer’s launcher and convinced yourself you’re too tough to suffer from tablet-arm fatigue. That leaves just one question: what can you actually play? Quite a lot, as it turns out.

Razer’s top-of-the line Edge Pro (the model we tested) features a 1.9GHz (3GHz with Turbo boost) Intel Core i7-3517U processor, 8GB of DDR3 RAM and an NVIDIA GT 640M LE GPU. In game, that translated to playable framerates at medium to high settings, at least for most titles. The two exceptions weren’t at all surprising: both *Crysis 3* and *The Witcher 2* have reputations for pushing hardware to its limits, and neither ran particularly well on the Edge.

At the tablet’s native 1,366 x 768 resolution, these games eked out a middling 25 fps, failing to maintain an average above 30 until they were scaled down to 1,280 x 600. *Crysis 3* bore the resolution hit well enough, but the loss of fidelity turned *The Witcher 2* into a muddled mess. The rest of our library fared better: *Skylrim* and *Black Ops II* each bounced between 30 and 60 fps on high settings, depending on how much action was on screen, and both *Battlefield 3* and *Far Cry 3* managed respectable framerates on medium settings. Some games didn’t require tweaking at all. *Dishonored* scored a firm 60 fps on high, and *Team Fortress 2* averaged 65, regularly pushing 100 fps in enclosed spaces. Then again, *TF2* runs well on *everything*. The Edge struggled with a few high-end games, but there wasn’t a single title we threw at it that wouldn’t play smoothly with reasonable adjustment.

The Edge doesn’t slouch as a standard Windows 8 tablet, either. We



BENCHMARK	PCMARK7	PCMARK VANTAGE	3DMARK06	3DMARK11	ATTO (TOP DISK SPEEDS)
RAZER EDGE PRO (1.9GHZ CORE i7-3517U, NVIDIA GT 640M LE 2GB)	4,949	13,536	10,260	E2507 / P1576	409 MB/S (READS); 496 MB/S (WRITES)
ACER ASPIRE TIMELINE ULTRA M5 (1.7GHZ INTEL CORE i5-3317U, NVIDIA GEFORCE GT 640M LE 1GB)	N/A	7,395	9,821	N/A	N/A
ACER ASPIRE TIMELINE ULTRA M3 (1.7GHZ INTEL CORE i7-2637M, NVIDIA GEFORCE GT 640M 1GB)	N/A	11,545	11,128	N/A	N/A
DELL XPS 12 (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,673	N/A	4,520	N/A	516 MB/S (READS); 263 MB/S (WRITES)
ACER ICONIA W700 (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,580	N/A	3,548	E518 / P506	542 MB/S (READS); 524 MB/S (WRITES)
MICROSOFT SURFACE PRO (1.7GHZ CORE i5-3317U, INTEL HD 4000)	4,673	N/A	3,811	E1,019 / P552	526 MB/S (READS); 201 MB/S (WRITES)

flicked our way through Microsoft's collection of Modern UI apps at breakneck speeds, enjoying every bit of processing power that Intel's Ivy Bridge chipset affords. The Windows desktop shrugged off our attempts to make it stutter as well, though managing the traditional computing environment was a bit off-putting without the benefit of a companion keyboard dock.

A slew of synthetic tests confirmed our first impressions: the Edge handily beat its contemporaries by several hundred points in PCMark 7, and crushed the competition in various 3D benchmarks, thanks in no small part to that dedicated GPU. Its 3DMark 06 and 11 scores fall more in line with a gaming laptop than a typical Windows tablet, but it won't outgun a proper gaming rig. The *origi-*



	BATTERY LIFE
RAZER EDGE PRO	3:40 / 6:30 (EXTENDED BATTERY)
ACER ICONIA W700	7:13
SAMSUNG SERIES 9 (13-INCH, 2012)	7:02
MACBOOK AIR (13-INCH, 2012)	6:34 (OS X) / 4:28 (WINDOWS)
DELL XPS 14	6:18
SONY VAIO T13	5:39
LENOVO IDEAPAD YOGA 13	5:32
DELL XPS 12	5:30
SAMSUNG SERIES 5 ULTRATOUCH	5:23
ASUS ZENBOOK PRIME UX31A TOUCH	5:15
ASUS ZENBOOK PRIME UX51VZ	5:15
TOSHIBA SATELLITE U845W	5:13
TOSHIBA SATELLITE U845	5:12
ACER ASPIRE TIMELINE ULTRA M3	5:11
TOSHIBA SATELLITE U925T	5:10
SAMSUNG ATIV SMART PC PRO	5:07
LENOVO THINKPAD X1 CARBON	5:07
ACER ASPIRE TIMELINE ULTRA M5	5:05

nal Razer Blade still has it beat by about 1,200 points. The only component out-classed by other Windows 8 tablets appears to be the Edge's 256GB SSD, which fell short of the Acer Iconia W700's ATTO benchmarks. In practice, it seemed more than speedy enough to us, booting up in five to seven seconds, and waking from sleep in less than four.

Ever since Razer announced the Fiona project, battery life has been a subject of avoidance. We can see why. Engadget's standard battery test ran the Edge to exhaustion in three hours and 40 minutes. This roughly matches the Surface Pro, but it still ranks far behind the Iconia W700, which houses a similar processor and a *smaller* battery. Worse still, the self-proclaimed gaming tablet only survived one hour and seven minutes of untethered gameplay before calling it quits. We gave the device another chance at our benchmarks after installing an extended battery pack (sold separately for \$69), and indeed, it lasted through six and a half hours of video playback. Still, we found only limited improvement on the gaming front: it managed just one hour and 46 minutes of high-performance gameplay.

SOFTWARE

Although Razer's still new to the PC business, it knows better than to install any bloatware. Razer PCs come with no pre-installed software, no anti-virus trials and no unnecessary garbage to slow the system down. Really, it's a thing of



beauty, and we couldn't be more pleased to see the Edge continue the trend. That said, there is *one* new piece of code lurking on the tablet's solid-state drive: the aforementioned Razer Launcher. Although the program's primary purpose is to uphold the Edge's console facade, it also offers a small selection of capture tools, allowing users to record video, snap screenshots and view in-game framerates with the tap of a hotkey. It also features a "game boost" processes manager, which promises to disable select (and unnecessary) Windows processes to bolster game performance. As we mentioned above, it has its hiccups and quirks, but with a few updates, it could prove to be a very useful launcher indeed.

CONFIGURATION OPTIONS AND THE COMPETITION

The Razer Edge is offered with two base configurations, the 1.7GHz Intel Core i5-3317U Razer Edge and the 1.9GHz Intel Core i7-3517U Razer Edge *Pro*. Buyers interested in the lower-end model are looking at a single build: 4GB of DDR3 RAM and a 64GB SSD priced at a cool \$999. No fuss, no muss, no options. The Razer Pro, on the other hand, comes with either 128 or 256GB of storage, which ring up at \$1,300 and \$1,450, respectively. The rest of the tablet's specifications are nearly identical: the same screen, the same 5,600mAh battery and the same terrible webcam. Look carefully, however, and you might find a small, but

If you're truly looking for a Windows 8 tablet that also happens to be a capable gaming machine, your journey starts and ends with the Edge.

notable difference: while both units boast NVIDIA's GT 640M LE as their graphical powerhouse, the Pro model's GPU packs *twice* as much video RAM. Performance-minded gamers should consider their investments carefully.

Sizing up the competition is a little more challenging. If you're truly looking for a Windows 8 tablet that also *happens* to be a capable gaming machine, your journey starts and ends with the Edge, at least for now. If you're in the market for a top-of-the-line slab with a powerful processor, however, you've got options. Power junkies dead set on that Core i7 CPU can find the same chip in the Dell XPS 12 *and* Sony VAIO Duo 11, though we wouldn't recommend the latter. You'd likely be better off targeting the Samsung ATIV Smart PC Pro or Microsoft's own Surface, both handily matching the i5 Edge in specification (save GPU) while offering a leg up for the productivity-minded. We're also intrigued by Lenovo's ThinkPad Helix,





Battery life keeps Edge from being a solid mobile option.

which promises i7 internals and quite a bit more longevity than Razer's kit — up to 10 hours. Of course, if you've already taken Razer's gaming bait, these hooks simply won't hold.

WRAP-UP

All told, Razer can get away with calling the Edge the world's *most powerful* tablet, at least for now. The company's claim to a mobile *and* home gaming console, however, falls flat. With

only two hours of usable battery life in a best-case scenario, the Edge fails to meet the needs of a mobile gaming device, and the inherent problems of using Windows 8 on a television screen keep it from stealing the console crown. Gamers looking for the perfect Steambox will likely want to wait for something a bit smoother, but PC enthusiasts looking for a well-built and intriguing toy will find the Edge an enjoyable, if expensive, distraction. As for us? We're hoping Razer takes the tablet down the same road as its Blade line of laptops: regular updates with significant price and spec improvements. Here's to the *next* generation of Windows 8 gaming tablets. **D**

Sean a lifelong gamer, a comic-book nerd, and an Eagle Boy Scout. He also writes for Engadget. What else is there to know?

BOTTOMLINE

RAZER EDGE PRO

\$999+



PROS

- Excellent build quality
- Fast and powerful
- Great modular accessories

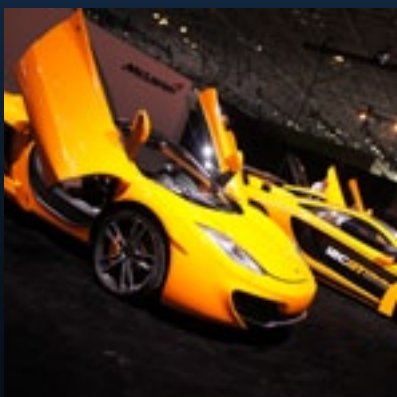
CONS

- Expensive
- Poor battery life
- Console experience falls flat

BOTTOMLINE

Modular accessories and a dedicated GPU make the Razer Edge an intriguing PC gaming tablet, but weak battery life and usability hiccups leave us inclined to wait for a second-gen model.





FROM THE FLOOR OF THE NEW YORK AUTO SHOW

THE NEW YORK INTERNATIONAL AUTO SHOW can be a bit hit-or-miss depending on what's going on elsewhere in the industry, and with the bombastic Geneva show wrapping up a month before, not many manufacturers had any major announcements left. Thankfully, Mercedes-Benz saved a few choice bits of info, including the unveiling of the B-

Class Electric Drive, an all-electric compact people mover that's coming to the US in 2014. The company also showed off the Smart Electric Drive, the battery-powered version of its tiny Fortwo. BMW also added more apps to its Connected portfolio and, as ever, there were plenty of beautiful exotic cars to admire. **By Tim Stevens**



MERCEDES-BENZ B-CLASS ELECTRIC DRIVE

The 2014 B-Class Electric Drive is bypassing the EV speedster set and aiming for the role of an everyday electric. It almost fits the description of an MPV, with its economical size, yet roomy interior. The 28kWh battery ekes out a 0-60 time of about 10 seconds, so it won't be the first off any starting lines, but having a range of around 115 miles does sweeten the deal.



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story





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BMW CONNECTED APPS

BMW touted a newly expanded portfolio of connected apps this year at NYIAS. It's offering iOS integration with Audible, Glympse, Rhapsody and TuneIn Radio, all for your listening pleasure. It also unveiled plans for a portable LTE router. With a capable SIM (Verizon was used here), speed can mean more than just MPH.



BENTLEY FLYING SPUR

For those with fine taste and a full pocket, Bentley's new version of the Flying Spur may be your bag. With the front touch-screen controls, the driver can access audio, phone and navigation systems, while the backseat passengers can indulge in the dual, 10-inch LCD screens paired with DVD drives, USB and HDMI ports, and SD card slots. The Flying Spur has new colors too, including the deep, royal tones they call "Damson."





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SMART ELECTRIC DRIVE

This petite EV has actually been around in Europe for a few years now, but the Smart is only just launching in the US this spring. With a \$25,000 price tag (not including the \$7,500 tax credit), it's certainly within reach of your average consumer. It offers 68 MPGe combined, so it's not made for long treks, but if you opt for an SPX charging station at home, you can have it fully charged in just six hours.



HONDA ODYSSEY BUILT-IN HONDAVAC

It may not be part of the gadget-laden interior you've been craving, but the built-in HondaVAC may save you a ton of quarters, and time. This power-integrated vac can run for eight minutes with the car off and ships with the 2014 Odyssey.



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**TECHNO
TAPETE**

PHOTOGRAPHS BY PIPE YANGUAS / COURTESY OF FEDERICO URIBE

PHOTOGRAPH COURTESY OF FRATELLI BOFF

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TECHNO TAPETE

Miami-based artist Federico Uribe believes that “the whole process of working with objects is like playing with clouds”; you can expand the possibility of objects into new and beautiful forms. In his recent work entitled “Tapete” (Spanish for carpet), he’s woven an elegant fabric from electronic debris such as keyboard keys, wires, circuit boards and CDs. These fragments that once carried bits, bytes and electric currents now echo the complexity of the gadgets they once were, but take the form of a handcrafted tapestry.



VATT KOTTON



THE OWNER AND CVO OF V-MODA reminisces about rotary dials, classic gaming and tethering for free burritos

What gadget do you depend on most?

My V-MODA Crossfade M-100s! I am always wearing them, even to use for phone calls with my phone or Skype on my computer. This way I can listen to music or have a conference call anywhere in the world. Even while I run!

Which do you look back upon most fondly?

My US Robotics 14.4k Courier HST modem. I was a hacker and BBS junky back in the day when I was a kid. Before there was the internet, you had to call computers point to point. The 14.4k modem finally allowed me to download games in a reasonable timeframe compared to 2,400-, 1,200- or 300-baud modem. I also still love Atari 2600 games, my first Tandy 1000 SX and, of course, the original Nintendo. But it's the only gadget I can think of that you had to *blow* on to work for you, that is not cool.

Which company does the most to push the industry?

It changes every few years; it is





“My first program was writing ‘HELLO WORLD.’ That’s why our first V-MODA product said ‘hello world’ when you opened the package.”

almost like a horse race. I used to be a professional programmer so I love to follow how the software development changes — it eventually leads to apps and games, which then changes users’ lives.

Lately, right now it is actually Microsoft, Samsung and V-MODA, in fact. Windows 8 got a lot of so-so reviews, but when you use it for a while it becomes second nature and it just looks “beautiful” as they say. Samsung is killing it with an array of devices that pushes the envelope on screen technology and

“Android software that works.” V-MODA invented the fashion headphone industry and was the first to do custom headphones on a larger scale that do not cost much more than a celebrity-endorsed brand. This way people can “endorse themselves.”

What is your operating system of choice?

MS-DOS 6.22 and Windows 3.11. I always wondered, did Microsoft purposely make one half the other?

What are your favorite gadget names?

Crossfade and Vibe by V-MODA are spectacular names. I think they tell a story in a word, Crossfade changes the song and Vibe is your feeling of music.

What are your least favorite?

The Sony MDR-EX71SL/WK Fonetopia Headphones. I really want



to meet the guy who named that model with a *slash*!

Which app do you depend on most?

Outlook and Zinio. I am addicted to reading magazines from around the world. Especially business magazines like *Harvard Business Review* and *Vogue Italia*.

What traits do you most deplore in a smartphone?

The fact that in the USA you can't use them for phone calls, especially in LA! I think it is a conspiracy to get us addicted to pay for text messages and data long-term. In China, for instance, my same phone works like a charm. It's like I am on a landline. Makes you think...

Which do you most admire?

Companies and technology that do things to improve people's lives and aren't all about profit. My company V-MODA measures our success on quality earnings, not quarterly.

What is your idea of the perfect device?

Anything that feels like solid metal. I HATE plastic.

What is your earliest gadget memory?

When I was 7, for Christmas I got a TI-99 and my dad taught me how to program. I'll never for-

get the unreliable cassette tape drives and early speech synthesis. My first program was writing "HELLO WORLD." When I was 7. That's why our first V-MODA product said "hello world" when you opened the package!

What technological advancement do you most admire?

Forget space travel, I want to go deep in the ocean and sightsee! There are probably a lot more interesting things to view up close underwater than in space. I guess Virgin has Galactic; V-MODA can do Deep Sea.

Which do you most despise?

Bad software that halts your computer or crashes your apps; have you ever tried to upgrade a Sony VAIO notebook?

What fault are you most tolerant of in a gadget?

No faults are tolerable. I despise faults; I am a perfectionist.

Which are you most intolerant of?

Boot-up times.

When has your smartphone been of the most help?

Before other people had smartphones, Chipotle used to have a trivia question to win a burrito. I used my Compaq iPaq with a mo-





“I download new magazines and relax with the ambient purple lighting.”

dem tether to get the answers and eat for free.

If you could change one thing about your phone what would it be?

A “dumb switch” and rotary dial. I miss the days of memorizing all my friend’s phone numbers!


What does being connected mean to you?

Fast internet, like the internet at the Engadget office. I love to Skype with my employees worldwide and when I can see and hear them clearly, it is very productive. I also love WiFi on Virgin America flights; I download new magazines and relax with the ambient purple lighting. It isn’t the same vibe in other airlines, like AA.

When are you least likely to reply to an email?

24/7 — I get way too many emails to even respond to a fraction of them. When you consider all the “email” sources now, it is frightening. You have Facebook inbox, Twitter direct, SMS, Skype and Home/Work email to name a few. I think I am going to start telling people to use carrier pigeons to contact me.

When did you last disconnect?

In Rome for two days last year. It was a short time, but it was the best time of my life as I got to enjoy food, culture, architecture and vino. I felt like a Caesarian for 48 hours! I think V-MODA may have to invent a dumbphone that only turns smart for one hour a day. 



IN REAL LIFE is an ongoing feature where we talk about the gadgets, apps and toys we're using in real life.

IOGEAR GEARPOWER GMP10K

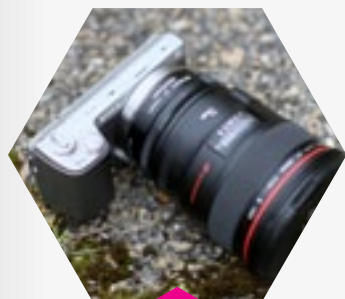
EXTERNAL BATTERY CHARGERS are a dime a dozen. In fact, we've covered quite a few of them in past IRLs, for good reason: since we travel so much and often find ourselves without a nearby charger, nearly everyone on the team relies on one to get us through trade shows.

I had the opportunity to take IOGEAR's GearPower GMP10K for a spin while traveling in Spain and California, and the external cell came in extremely handy. While your mileage will vary de-

pending on the size of the devices you're charging, its 11,000mAh capacity got me through no less than eight charge cycles with some juice left over. As you can imagine, it's not the smallest external battery charger out there, but it fits in my backpack without taking up much room. The \$80 pack may be overkill for the casual phone user, but it's definitely worth consideration if you have a packed travel schedule throughout the year. — *Brad Molen*



SteelSeries
Free Mobile
Wireless
Gaming
Controller



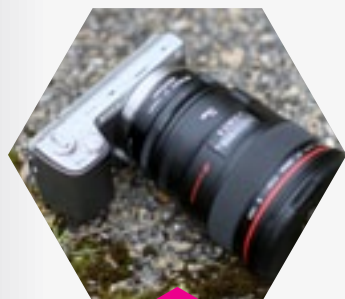
Metabones
Speed
Booster



STEELSERIES FREE MOBILE WIRELESS GAMING CONTROLLER



IOGEAR
GearPower
GMPIOK



Metabones
Speed
Booster

I JUST SPENT an idyllic afternoon with my 2-year-old daughter. We didn't go to the park because it was snowing. We didn't read books because, well, we just didn't fancy it. Instead, we sat on bean bags in the living room and played *Proteus* on my PC. It's a simple and beautiful game with no goal other than to wander around a magical island. It was the first time the kid ever played a computer game and the first time she held a controller. The one for my Xbox 360 was too big, so we tried a SteelSeries Free Mobile Gaming Controller instead. It was a perfect fit and she quickly got the hang of looking and moving using the analog sticks — for-

tunately the game doesn't require any buttons, otherwise things might have gotten too tricky. It was 30 minutes of pure fun and I know she'll want to try it again soon.

From a parenting perspective, I don't know if this is a good idea. Our kindergarten deliberately keeps toddlers away from computers until they get older, on the basis that their real-world coordination should fully develop first. On the other hand, I remember playing *4D Sports Racing* and *Commander Keen* with my little sisters, and I'm convinced it helped our coordination to develop, giving us all a head start when it came to learning to drive, ski and sail. My sisters weren't quite this young, though — they were 7 or 8 years old at the time, not 2, which means this is uncharted territory in my family. But it's beautiful territory — an island of falling blossoms and shooting stars — and I can't think of a good reason to mark it off limits.

— Sharif Sakr



METABONES SPEED BOOSTER

WHICH SONY NEX user hasn't gazed longingly from time to time at Canon shooters and their collection of sublime L series glass? Sure, there are some excellent E-mount lenses, but none of them set one's heart aflutter like Canon's EF 50mm f/1.2L USM, a pricey lens that brings near-night-vision speed and ultra-fine selective focus.

Now, though, there's a way to live in both worlds at once: Metabones' new Speed Booster. It adapts Canon full-frame EF lenses (not EF-S) to Sony's E-mount NEX cameras, with the added benefits of full image stabilization, limited autofocus capability and EXIF data, among others. Amazingly, by working as a so-called focal reducer, the definitely-not-endorsed-by-Canon Speed Booster also ekes out a full extra aperture stop, turning an f/2 lens into an f/1.4 lens for instance.

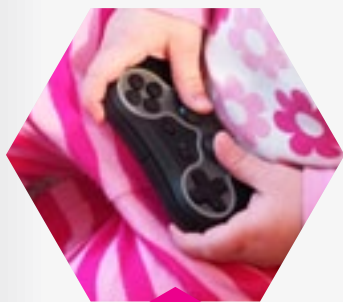
I've been using it with that 50mm Canon glass along with a 24mm f/1.4L USM lens and a NEX-5N, and it works very well indeed — provided you keep your autofocus expectations in check.

Metabones says up front that "the autofocus speed is unfit for professional use for sure, and it would disappoint most enthusiasts." It's absolutely not suited for action photography, but for landscapes, still subjects and portraits, once it locks on after a bit of programmed hunting, focus is razor-sharp.

For video work, there's no continuous AF as with native lenses, but it's possible to focus while shooting by pressing the shutter button — though any hunting will ruin the shot, of course, making manual focus the best option for most. As for the Speed Booster's build: the fit and finish were impeccable, the optical quality was excellent, functions like auto-bracketing worked perfectly and changing settings like the f-stop in-camera worked just as it would with NEX lenses. At wide apertures like f/0.9 (!) on the 50L there was some vignetting, but you would also see that on any full-frame camera, especially when using an aperture setting that ridiculously wide-open. Otherwise, it gave my Sony shooter much more artistic capability and flexibility while turning it into a low-light monster. — *Steve Dent*



IOGEAR
GearPower
GMPIOK



SteelSeries
Free Mobile
Wireless
Gaming
Controller



The week that was in 140 characters or less

HTC Third Base, Bitcoin Now and a One Percenter's Perception

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REHASHED

@clintonjeff

So now that there's an HTC One and an HTC First, I can't wait till next year when there's an HTC One 2 and HTC First 2. Oh the hilarity!

@Asher_Wolf

Every financial editor: "I want something on my desk about Bitcoin in the next 40 minutes."

@danielwcooper

Is all of this mawkish Lucasarts nostalgia based on *Day of the Tentacle* or did they make a worthwhile game between 2000 and now?

@daamitt

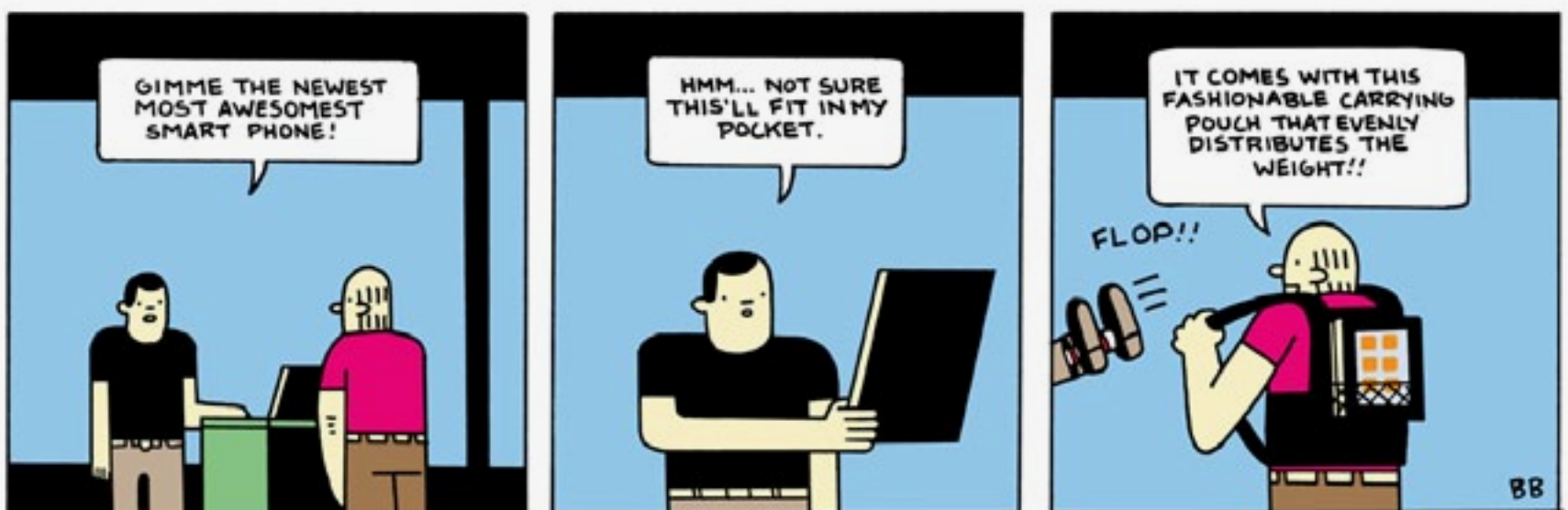
The 'Baidu eye' sounds like an ophthalmic disease of sorts.

@Gartenberg

Tesla math for \$500 car payment is best billionaire rationalization I have ever seen. #seriously

THE STRIP

BY BOX BROWN



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04.05.13

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TIME
MACHINES


WHAT IS THIS? 
TOUCH TO FIND OUT



PHOTOGRAPH BY EVAN-AMOS / WIKIMEDIA.ORG



BALLY PROFESSIONAL ARCADE



1977 was a period of transition in home gaming; the ball-and-paddle consoles like *Pong* were on the way out and a new breed was taking over. Many people are familiar with the popular Atari VCS, but alongside its release was the lesser-known Bally Home Library Computer. Initially this was a mail-order-only console pitched as "more than just a programmable TV game." Perhaps ironically, it was renamed the Bally Professional Arcade in 1978 following a delay in its full-market release. The faux-walnut exterior, pistol-grip controller, competitive game selection and 12,000 bytes of power couldn't save it from lackluster sales, partly due to bad marketing decisions, as it was only being sold at computer stores.



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